USEPA Region 2
Review of Public Drinking Water Systems, Private Wells and Facilities with PFCs
DRAFT – March 10, 2016

I. Introduction

Since perfluorooctanoic acid (PFOA) was found at high levels in the public water supply, private wells, and on the grounds of the Saint-Gobain facility in Hoosick Falls, NY, Region 2 has been identifying the scope of occurrences of PFOA and other perfluorcarbons (PFCs) in other drinking water supplies and facilities within the Region. This document sets forth what we currently know about public drinking water systems, private wells, and other facilities. With this information, we can then develop a plan of action, setting priorities and a timeline for addressing some of these issues.

II. Public Drinking Water Systems – UCMR3 Data

A Primer on the Federal Safe Drinking Water Act (SDWA) Rulemaking Process

Preliminary regulatory determinations can come from the EPA's Contaminant Candidate List (CCL) or from data reported pursuant to the Unregulated Contaminant Monitoring Rule (UCMR), which are often used in concert. From there, final regulatory determinations are made and a rule may be proposed, finalized, and made part of the National Primary Drinking Water Regulations (NPDWRs). Existing NPDWRs are continually evaluated as part of the EPA's [HYPERLINK "http://water.epa.gov/lawsregs/rulesregs/regulatingcontaminants/sixyearreview/" \t "_blank"].

The SDWA requires the EPA to make regulatory determinations on at least five CCL contaminants every five years. The EPA is obligated to regulate a contaminant if there EPA determines that it meets the following criteria ([HYPERLINK "http://www.law.cornell.edu/uscode/text/42/300g-1" \t "_blank"]):

> (1) The contaminant may have an adverse effect on the health of persons;
> (2) The contaminant is known to occur or there is substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and
> (3) In the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.

Contaminant Candidate List (CCL)
The EPA published the [HYPERLINK "http://water.epa.gov/scitech/drinkingwater/dws/ccl/ccl3.cfm" \t "_blank"] in October 2009. It listed 116 contaminants, including 12 microbes (e.g., viruses and bacteria) and 104 chemicals – the latter a varied class consisting of industrial chemicals, pharmaceuticals, pesticides, and inorganics. PFOA is on the CCL3.

As the CCL3 cycles through the regulatory process, the next list, CCL4, began its journey in Spring 2012 when the EPA requested nominations for contaminants to consider. Fifty-nine contaminants were suggested, including perfluorooctane sulfonate (PFOS) PFOS and PFOA. CCL 4 was in draft and accepted comments until April 6, 2015. (We understand that it is still in draft.)

Unregulated Contaminant Monitoring Rule (UCMR)
To better understand the prevalence of potentially dangerous contaminants, the EPA mandates a number of drinking water systems facilities to conduct monitoring and reporting activities. Like the CCL program, the [HYPERLINK "http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/" \t "_blank"] process runs in long, overlapping cycles.

[HYPERLINK "http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm" \t "_blank"] monitoring began in January 2013 and ended in December 2015, and reporting runs through mid-2016. Six perfluorinated compounds (PFCs) are on the UCMR 3 list: PFOS, PFOA, perfluoronanoic acid (PFNA), perfluorohexansulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorobutanesulfonic acid (PFBS).

Some additional notes about the UCMR3 data collection process:

- National testing was required by all large systems and 800 systems serving under 10,000 people.
- Drinking water systems had until December 31, 2015, to sample, which means that additional data may be reported.
- The data is still draft, and is being confirmed by the UCMR Team in Ohio.
- There are two data bases for UCMR3 results: (1) the UCMR3 National Contaminant Occurrence Database (NCOD) and (2) the Safe Drinking Water Accession and Review System (SDWARS). They are updated at different times and sometimes have different data.

Region 2's Review of UCMR3 Data: Region 2 DECA and CWD staff have reviewed all of the currently available data that has been submitted under UCMR3 to determine the impacts of the anticipated lower health advisory numbers for PFOA and PFOS.

A. **PFOA:** No exceedances of the current 400 ppt provisional health advisory or of 100 ppt. The highest reported level of PFOA, based on UCMR monitoring, at Region 2 water systems was 68 ppt. This was at the South Orange Water Department-Meadowbrook Well Treatment Plant.

B. **PFOS:** The UCMR3 data show exceedances of the current EPA 200 ppt PFOS health advisory, and of 100 ppt, in Suffolk County and the City of Newburgh.

- **Suffolk County Water Authority (SCWA) PFOS UCMR3 data:**

  2014 – 530 ppt (near Stonybrook University-well shut down November 2015)
  2014 – 330 ppt (in Manorville-well shut down November 2015)
  2014 – 150 ppt (near Francis Gabreski Airport, Quogue)

DECA's follow-up plan: DECA asked NYSDOH for the long term strategy for the wells purportedly shut down, and NYSDOH replied that it needed to follow-up with the County Health Department and the SCWA. This is on the agenda for DECA's next quarterly discussion on drinking water issues with the state scheduled for March 2016.

- **City of Newburgh:** The City of Newburgh is a surface water system that serves over 90,000 people and sells water to the New Windsor Consolidated Water District, which serves over 30,000 people.

  - **City of Newburgh PFOS UCMR data:**

    December 2013 – 170 ppt
    April 2014 – 150 ppt
    June 2014 – 140 ppt
    October 2014 – 140 ppt

  - **New Windsor Consolidated Water District PFOS UCMR data:**

    October 2014 – 140 ppt
    December 2014 – 128 ppt

DECA's follow-up plan: When the revised PFOS health advisory is final, DECA will contact NYSDOH to develop a joint plan to evaluate and address PFOS levels above 100 ppt (or whatever the final number is) found at Suffolk County, Newburgh and New Windsor. DECA will consult with ERRD (Michael Sivak) to see if sources of contamination can be identified for Newburgh and New Windsor.

Also as to Newburgh, there are existing state and federal enforcement actions addressing MS4 and CSO issues as well as a federal enforcement action addressing SDWA violations, including a violation of the total trihalomethanes (TTHM) MCL. Therefore, there needs to be a comprehensive discussion among the City, NYSDEC, NYSDOH and EPA to assure that all of their environmental issues are assessed and prioritized.

III. Public Drinking Water Systems in New York – Not Based on UCMR3 Data

Of course, Hoosick Falls is the most prominent community where the public water system has exceeded the EPA public health advisory. This came to light not because of UCMR3 data, but because a resident of the community sampled some taps and persuaded the public water supply to then test for PFOA.

Petersburgh is another community in which the drinking water system has neared or exceeded the EPA public health advisory for PFOA. Rensselaer County test results released on March 3, 2016 show that the distribution system has 98 ppt of PFOA; NYSDOH test results were similar. Taconic Plastics has agreed to provide bottled water.

IV. Public Water Systems in New Jersey – UCMR3 and Other Data

New Jersey has a preliminary drinking water guidance value for PFOA at 40 ppt. It also has an Interim Specific Groundwater Quality Criterion (ISGWQC) for PFNA of 10 ppt, which is enforceable by the state under the State Site Remediation program. PFNA is the main PFC of concern at the Solvay facility in West Deptford and several of the nearby municipalities. NJDEP is currently working on developing an ISGWQC for PFOA and PFOS, which will also be enforceable under the State Site Remediation program. The New Jersey Drinking Water Quality Institute (NJDWQI) proposed to the Commissioner to

adopt the 10 ppt PFNA as an MCL; approval is pending. Following the NJDEP development of ISGWQC for PFOA and PFOS, the NJDWQI will more likely propose to the Commissioner to adopt the PFOA and PFOS ISGWQC as MCLs.

NJDEP has a database to compile data collected from public water supply systems (PWSSs) as part of the UCMR3, PWSSs near facilities such as Solvay Solexis, NJDEP 2009 PFOA/PFOS Study of drinking water systems, and potential sources of PFCs. At certain locations, Granular Activated Carbon (GAC) filtration systems were installed at PWSSs with exceedances, while at other locations the wells with exceedances were taken off-line or the treatment plants are inactive. NJDEP provided EPA the "work-in-progress" maps associated with the database that EPA can use internally (see attachment A). We can get updated maps as they are revised by NJDEP.

CWD Compilation of Data: Based on the UCMR3 data as well as information provided by the state, CWD has compiled a list of public water systems in New Jersey that have PFOA or PFOS levels that exceed 40 ppt. These UCMR data were collected at the wells for a one-year continuous period from 2013-2015. One system exceeded the NJ level for PFNA; EPA has a minimum reporting level for PFNA, but no health advisory.

New Jersey PWSS with Exceedances of 3 PFCs	
NJ American Water Co, Raritan Quinton Ave Well Hummocks Station Treatment Plant	 43 ppt PFOS 53 and 54 ppt PFOA
Atlantic City ASR Well 1 MUA, Pleasantville	 44, 47, and 48 ppt PFOS 43 ppt PFOA
South Orange Water Meadowbrook well Treatment Plant	58 and 68 ppt PFOA
Montclair Glenfield , Rand and Lorraine wells	range of 42 to 48 ppt PFOA
Orange WD Gist Place well Orange Park	 44 ppt PFOA (well off-line) 100 ppt PFOA (treatment plant inactive)
Gloucester	52.7 ppt PFNA

NJ preliminary drinking water guidance value for PFOA = 40 ppt
NJ Interim Specific Groundwater Quality Criterion (ISGWQC) for PFNA = 10 ppt
NJ has no guidance value or criterion for PFOS.

CWD Follow-up plan: CWD requested NJDEP to provide a list of the drinking water systems with exceedances as follows:

(1) above 100 ppt for PFOA or PFOS;
(2) above 10 ppt for PFNA, and
(3) PFOA and PFOS results lower than 100 ppt, but above the NJDEP 40 ppt PFOA drinking water health guidance value.

The NJDEP list will be added to this document upon receipt.

GAC systems have been installed at four PWSSs in New Jersey to reduce PFOA/PFNA to acceptable levels, which have been achieved. These PWSSs are located in the following townships:

1. S Paulsboro
2. Greenwich
3. Logan
4. Monroe (Gloucester County)

- Seven Townships near Solvay Solexis: CASD-RCRA has PFCs sampling data for seven townships near Solvay Solexis. The table below lists the townships and the results of detected PFCs in those PWSS (exceedances are in red).

PWS Investigation			
PWS	PFNA	PFOA	PFOS
Paulsboro PWS	10 - 140	13 - 44	1.4 - 15
West Deptford PWS	ND - 38	ND - 7.6	ND - 1.6
Woodbury PWS	ND - 120	ND - 23	ND - 8.9
Greenwich PWS	7.0 - 53	7.1 - 40	0.88 - 9.0
East Greenwich PWS	ND - 35	ND - 6.6	ND - 4.7
Westville PWS	ND - 11	ND - 5.2	ND - 2.6
National Park PWS	6.2 - 15	ND - 3.5	1.4 - 2.3

NJ preliminary drinking water guidance value for PFOA = 40 ppt
NJ Interim Specific Groundwater Quality Criterion (ISGWQC) for PFNA = 10 ppt
NJ has no guidance value or criterion for PFOS.

- NJDEP PFOA/PFOS study of drinking water systems: [HYPERLINK "http://www.nj.gov/dep/watersupply/dwc_quality_pfoa.html"], provides the NJDEP results of PFOA and PFOS 2009 study of drinking water systems. The NJDEP tested 23 drinking water systems, and PFOA and PFOS were detected at very low levels in 78 and 57 percent, respectively, of those tested. The remaining percentages had no detects. This data is limited, and CASD-RCRA obtained more comprehensive maps showing PFCs (including PFOA, PFOS and PFNA) distribution along with potential PFC sources across New Jersey.

V. Private Wells

Information about PFOA, PFNA or PFOS in private wells generally arises when a public water system shows exceedances, or there is a private or federal facility* in the vicinity that has manufactured or used PFOS, PFNA or PFOS in its products or practices.

**For additional information on federal facilities, see also Attachment B for ERRD sampling in NY and NJ.*

- Private Wells near Federal Facilities and Other Facilities in NY
  - Plattsburgh Air Force Base, NY
    - PFOA was found above 400 ppt at a few private wells outside the Base, and the USAF then supplied bottled water to those homes and is going to install a few POETs.
  - Petersburgh, NY

- The state told us that thousands of parts per trillion of PFOA were found in on-site wells (supposedly not used for drinking) at Taconic Plastics in 2012. According to a letter from the Town Supervisor, Taconic Plastics's manufacturing processes used to employ PFOA, but it has not used the chemical since 2003.
- The Village of Petersburgh and the County DOH sampled some private wells in February 2016. The County Executive released test results on March 3, 2016, showing 53 and 51 ppt, respectively, in two private wells within a half mile of Taconic Inc.

- Granville, NY
  - A Saint-Gobain Performance Plastics facility is located in Granville. The water utility has sampled its public water supply for PFCs. We have been told that based on the data collected, PFOA is not impacting the Granville public water supply.

- Berlin, NY
  - In February 2016, NYSDOH sampled three wells that serve the Berlin water district. Rensselaer County released the test results on March 3, 2016; the PFOA levels ranged between 12 and 15 ppt.

- Cambridge, NY (located between Granville and Hoosick Falls)
  - The village arranged for testing of its public water supply in February. The results are pending.

- Private Wells near Federal Facilities and Other Facilities in NJ

  - Naval Weapon Station Earle, Colts Neck, NJ
    - A few of the well samples collected on site had > 400 ppt. The Navy is expanding its investigation to see if receptors approximately a half mile downgradient have been exposed.

  - DuPont Chambers Works, Deepwater, NJ – a number of private drinking water wells have been impacted by PFOA-containing air emissions from the DuPont Chambers Works plant. Based on 2009 sampling, one private well was above 400 ppt, and 29 wells were between 100 and 400 ppt. A POET system was placed on the one above 400 ppt. ERRD has the lead and has already reached out to DuPont asking it to retest the wells.

  - Solvay Solexis sampled approximately 60 private wells within its vicinity and identified detectable levels of PFNA (1500 ppt maximum) and PFOA (500 ppt maximum) in about seven wells. Bottled water was provided and then POETS were installed by NJDEP. NJDEP is responsible for O&M for some of the POETS, and Solvay Solexis is responsible for O&M for other POETS.

  - NJDEP sampled about 115 private wells in south New Jersey as a result of PFNA and PFOA contamination resulting from multiple sources in southern NJ. PFOA and PFNA results were as high as 650 ppt, and PFOS results were as high as 340 ppt. Based on current data, the geographical distribution of PFOS contamination is not as extensive as

PFOA and PFNA. NJDEP has installed and continues to install POETS where elevated PFCs are measured. NJDEP does provide bottled water to residences with PFC exceedances until the POET is proven to be effective.

VI. Other Places to Consider for Follow-up

Ex. 5 - Deliberative

Ex. 5 - Deliberative

Ex. 5 - Deliberative